

2003-08-18 2750-1573P.ST25.txt
SEQUENCE LISTING

<110> FELDMAN et al.

<120> NUCLEOTIDE SEQUENCES AND POLYPEPTIDES ENCODED THEREBY USEFUL FOR
INCREASING PLANT SIZE AND INCREASING THE NUMBER AND SIZE OF LEAVES

<130> 2750-1573F(PCT)

<140> UNASSIGNED

<141> 2003-08-18

<160> 47

<170> PatentIn version 3.0

<210> 1

<211> 1453

<212> DNA

<213> Zea mays subsp. mays

<220>

<221> misc_feature

<222> (1)..(1453)

<223> ceres Seq. ID no. 12355477

<220>

<221> misc_feature

<222> ()..()

<223> n is a, c, t, g, unknown, or other

<400> 1

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gttcttgagt tgcgatcttc tgctggttcg tgtcccccaa tccgtaatca atccggcgctc 240
taggaaacca attgctgctc agttctctta tttgtcctc gccttccttc ctccagcctg 300
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caagaattgt tgcattcgat aaaggtcggg tgaaaataca agcaaatcct gggaactcgc 420
gtccctttgc taggtggttc tttcctgata caaagaacac aatgggcat gtgtccttga 480
acggacccat taaggctgct gagccagggt ccggtggcat tgccaagggc aatcaagttc 540
tggacacgat gtccgccggg tggacagacg agagacacag gctgtatata agctctatgg 600
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aggcctcttt cgtcgatcaa ctgtacaacc acgggagccg tccgcgcaac gcaaacggca 660
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gaagggggggc taagtgtgc ggcgttcctg caaatccttg gatgcagcat ttcaggccac 780
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ctcgtctctt cgtcagaagg atattaggct aggtcactgt tattaaattt ttcaataaca 1380
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tattctttat gcc 1453

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<210> 2
 <211> 576
 <212> DNA
 <213> Zea mays subsp. mays

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ctgtatataa gctctatgga ggcctctttc gtcgatcaac tgtacaacca cgggagccgt 180
ccgcgcaacg caaacggcac cgccttcaag gctctccgca gggagtacgt cgagtatgag 240
aagaccgatg ctctgtgtgc aaggggggct aagtgtgtgc gcgttcctgc aaatccttgg 300
atgcagcatt tcaggccacg tagtgatggc ggtaataacg gcgcgaggcga tgggctcggg 360
gattctgtgg gcgatcttga atctggcact gaggcaaacc ggaagagcct ctcagcgtct 420
catggaaggg aacgggacgc ttgtgagggg gaacccagc ttctccatga aagtagagag 480
gtctctgatc aaaattttgc tgacgacgag gctgaagctg aaacagaatc aatgaaagca 540
tacaagaaaa ggagattaag caggacaatg atcaac 576

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<210> 3
 <211> 192
 <212> PRT
 <213> Zea mays subsp. mays

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<220>
 <221> peptide
 <222> (1)..(192)
 <223> ceres Seq. ID no. 12355478

<220>
 <221> misc_feature
 <222> ()..()
 <223> xaa is any aa, unknown or other

<400> 3
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 1 5 10 15
 Ala Gly Gly Ile Ala Lys Gly Asn Gln Val Leu Asp Thr Met Ser Ala
 20 25 30
 Gly Trp Thr Asp Glu Arg His Arg Leu Tyr Ile Ser Ser Met Glu Ala
 35 40 45
 Ser Phe Val Asp Gln Leu Tyr Asn His Gly Ser Arg Pro Arg Asn Ala
 50 55 60
 Asn Gly Thr Ala Phe Lys Ala Leu Arg Arg Glu Tyr Val Glu Tyr Glu
 65 70 75 80
 Lys Thr Asp Ala Pro Val Arg Arg Gly Ala Lys Cys Cys Gly Val Pro
 85 90 95
 Ala Asn Pro Trp Met Gln His Phe Arg Pro Arg Ser Asp Gly Gly Asn
 100 105 110
 Asn Ala Arg Gly Asp Gly Leu Gly Asp Ser Val Gly Asp Leu Glu Ser
 115 120 125
 Gly Thr Glu Ala Asn Arg Lys Ser Leu Ser Ala Ser His Gly Arg Glu
 130 135 140
 Arg Asp Ala Cys Glu Gly Glu Pro Gln Leu Leu His Glu Ser Arg Glu
 145 150 155 160
 Val Ser Asp Gln Asn Phe Ala Asp Asp Glu Ala Glu Ala Glu Thr Glu
 165 170 175
 Ser Met Lys Ala Tyr Lys Lys Arg Arg Leu Ser Arg Thr Met Ile Asn
 180 185 190

<210> 4
 <211> 489
 <212> DNA
 <213> Zea mays subsp. mays

<400> 4
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 aaggctctcc gcagggagta cgtcgagtat gagaagaccg atgctcctgt gcgaaggggg 180
 gctaagtgct gcggcggttc tgcaaatcct tggatgcagc atttcaggcc acgtagtgat 240
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ggcggtaata acgcgcgagg cgatgggctc ggggattctg tgggcgatct tgaatctggc    300
actgaggcaa accggaagag cctctcagcg tctcatggaa gggaacggga cgcttgtagag    360
ggagaacccc agcttctcca tgaaagtaga gaggtctctg atcaaaattt tgctgacgac    420
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atgatcaac                                                                    489

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<210> 5
<211> 163
<212> PRt
<213> Zea mays subsp. mays

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<220>
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<222> (1)..(163)
<223> ceres Seq. ID no. 12355479

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<220>
<221> misc_feature
<222> ()..()
<223> xaa is any aa, unknown or other

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<400> 5
Met Ser Ala Gly Trp Thr Asp Glu Arg His Arg Leu Tyr Ile Ser Ser
1          5          10          15
Met Glu Ala Ser Phe Val Asp Gln Leu Tyr Asn His Gly Ser Arg Pro
20          25          30
Arg Asn Ala Asn Gly Thr Ala Phe Lys Ala Leu Arg Arg Glu Tyr Val
35          40          45
Glu Tyr Glu Lys Thr Asp Ala Pro Val Arg Arg Gly Ala Lys Cys Cys
50          55          60
Gly Val Pro Ala Asn Pro Trp Met Gln His Phe Arg Pro Arg Ser Asp
65          70          75          80
Gly Gly Asn Asn Ala Arg Gly Asp Gly Leu Gly Asp Ser Val Gly Asp
85          90          95
Leu Glu Ser Gly Thr Glu Ala Asn Arg Lys Ser Leu Ser Ala Ser His
100         105         110
Gly Arg Glu Arg Asp Ala Cys Glu Gly Glu Pro Gln Leu Leu His Glu
115         120         125
Ser Arg Glu Val Ser Asp Gln Asn Phe Ala Asp Asp Glu Ala Glu Ala
130         135         140
Glu Thr Glu Ser Met Lys Ala Tyr Lys Lys Arg Arg Leu Ser Arg Thr
145         150         155         160
Met Ile Asn

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<210> 6

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<211> 441

<212> DNA

<213> Zea mays subsp. mays

<400> 6

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gtgcgaaggg gggctaagtg ctgcggcggt cctgcaaadc cttggatgca gcatttcagg      180
ccacgtagtg atggcggtaa taacgcgcga ggcgatgggc tcggggattc tgtgggcgat      240
cttgaatctg gcaactgaggc aaaccggaag agcctctcag cgtctcatgg aagggaacgg      300
gacgcttggt agggagaacc ccagcttctc catgaaagta gagaggtctc tgatcaaaat      360
tttgctgacg acgaggctga agctgaaaca gaatcaatga aagcatataa gaaaaggaga      420
ttaagcagga caatgatcaa c                                     441

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<210> 7

<211> 147

<212> PRt

<213> Zea mays subsp. mays

<220>

<221> peptide

<222> (1)..(147)

<223> ceres Seq. ID no. 12355480

<220>

<221> misc_feature

<222> ()..()

<223> xaa is any aa, unknown or other

<400> 7

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Met Glu Ala Ser Phe Val Asp Gln Leu Tyr Asn His Gly Ser Arg Pro
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Arg Asn Ala Asn Gly Thr Ala Phe Lys Ala Leu Arg Arg Glu Tyr Val
20         25         30
Glu Tyr Glu Lys Thr Asp Ala Pro Val Arg Arg Gly Ala Lys Cys Cys
35         40         45
Gly Val Pro Ala Asn Pro Trp Met Gln His Phe Arg Pro Arg Ser Asp
50         55         60
Gly Gly Asn Asn Ala Arg Gly Asp Gly Leu Gly Asp Ser Val Gly Asp
65         70         75         80
Leu Glu Ser Gly Thr Glu Ala Asn Arg Lys Ser Leu Ser Ala Ser His
85         90         95
Gly Arg Glu Arg Asp Ala Cys Glu Gly Glu Pro Gln Leu Leu His Glu
100        105        110
Ser Arg Glu Val Ser Asp Gln Asn Phe Ala Asp Asp Glu Ala Glu Ala
115        120        125

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Glu Thr Glu Ser Met Lys Ala Tyr Lys Lys Arg Arg Leu Ser Arg Thr
 130 135 140

Met Ile Asn
 145

<210> 8
 <211> 1494
 <212> DNA
 <213> Zea mays subsp. mays

<220>
 <221> misc_feature
 <222> (1)..(1494)
 <223> ceres Seq. ID no. 12410516

<220>
 <221> misc_feature
 <222> ()..()
 <223> n is a, c, t, g, unknown, or other

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 agggggccttg cttcatctgc tgtccgatcg tggtttggtt tctcggggct ggcgcggtca 180
 agagcgcacc tgaattccac cgaaatccgc cacggtagtt cttgcctagg tgtgtcgttg 240
 gtcgttgccct tgtgaccctt gcggattttc ttgtttcttt ttgagttgct atctttgcag 300
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 tttttttttg cctgttcgta gaggaagcag tgaagacata attgttgcat ctgataaagc 480
 tcgggcgaaa tacacgcaa tccttggaat ttgcatccc ttgtctggct cttttctgat 540
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 ggtggcattg ccaagggaaa ccgagttctg gacacgatgt ccgccgggtg gacggacgag 660
 agacacatgc tgtatataag ctccatggag gcttcttttg tcgatcagct atacaaccat 720
 ggaaaccatc cgcacgacgc aaatggcgct ggcttcaagg ttctccgcag gggggtgtgg 780
 gagtacatcg agtatgagaa gaccagtgcc cctgtgcgaa gtggggctaa atgctgcgtc 840
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 gaaagtacag aggtctctga tcaaaatctt gctgacgatg aggctgaagc tgaaacagaa 1080
 tcaatgaaag catgcaagaa aaggagacta agcagggtt tgcactccgg tgctgaatga 1140

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tcaagtaa at tcgcaggaac aattagctta gcctgttgca aga atcgata tgatttatcc 1200
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gtagccaaga cacactgaat ccgaaggaag gcgttggaagg gtagctgtta gtgattttgt 1320
gatataaaga gtactggggc agttagcatc ggcattttta gcggatttaa gttcttggtta 1380
tgtatatctg tcttctgtct tcatcagtag tgctgcttag tacctactc tctcgtcagc 1440
aggatatttc tatatattgt ctgtacttgg tagatatatg tattggttga tccg 1494

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<210> 9
 <211> 585
 <212> DNA
 <213> Zea mays subsp. mays

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tatataagct ccatggaggc ttcttttgtc gatcagctat acaaccatgg aaaccatccg 180
cacgacgcaa atggcgctgg cttcaagggt ctccgcaggg ggggtgtggga gtacatcgag 240
tatgagaaga ccagtgcgcc tgtgcgaagt ggggctaaat gctgcgtccc tgcaa atcct 300
tggatccggc atttcaggcc acgtgactgc ggtagtaacg cacagagtga cgcggtcgag 360
gcctcagtgg gcgaccatga gtcgggtact caggcaagcc gcaagagccc ttcagtgtct 420
catggaaggg aacggggagc ttgtaaggga gaacccaga ttctacatga aagtacagag 480
gtctctgatc aaaattttgc tgacgatgag gctgaagctg aaacagaatc aatgaaagca 540
tgcaagaaaa ggagactaag cagggccttg cactccggtg ctgaa 585

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<210> 10
 <211> 195
 <212> PRT
 <213> Zea mays subsp. mays

<220>
 <221> peptide
 <222> (1)..(195)
 <223> ceres Seq. ID no. 12410517

<220>
 <221> misc_feature
 <222> ()..()
 <223> xaa is any aa, unknown or other

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<400> 10
Met Gly Asp Val Ser Leu Asn Arg Pro Val Lys Ala Glu Pro Thr Ala
1          5          10          15
Gly Gly Ile Ala Lys Gly Asn Arg Val Leu Asp Thr Met Ser Ala Gly
20          25          30

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[illegible]

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aaggttctcc	gcaggggggt	gtgggagtac	atcgagtatg	agaagaccag	tgcccctgtg		180
cgaagtgggg	ctaaatgctg	cgtccctgca	aatccttgga	tccggcattt	caggccacgt		240
gactgcggta	gtaacgcaca	gagtgcgcg	gtcgaggcct	cagtgggcga	ccatgagtcg		300
ggtactcagg	caagccgcaa	gagcccttca	gtgtctcatg	gaagggaaacg	gggagcttgt		360
aagggagaac	cccagattct	acatgaaagt	acagaggctt	ctgatcaaaa	ttttgctgac		420
gatgaggctg	aagctgaaac	agaatcaatg	aaagcatgca	agaaaaggag	actaagcagg		480
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8

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<212> PRT

<213> Zea mays subsp. mays

<220>

<221> peptide

<222> (1)..(167)

<223> ceres Seq. ID no. 12410518

<220>

<221> misc_feature

<222> ()..()

<223> xaa is any aa, unknown or other

<400> 12

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20 25 30His Asp Ala Asn Gly Ala Gly Phe Lys Val Leu Arg Arg Gly Val Trp
35 40 45Glu Tyr Ile Glu Tyr Glu Lys Thr Ser Ala Pro Val Arg Ser Gly Ala
50 55 60Lys Cys Cys Val Pro Ala Asn Pro Trp Ile Arg His Phe Arg Pro Arg
65 70 75 80Asp Cys Gly Ser Asn Ala Gln Ser Asp Ala Val Glu Ala Ser Val Gly
85 90 95Asp His Glu Ser Gly Thr Gln Ala Ser Arg Lys Ser Pro Ser Val Ser
100 105 110His Gly Arg Glu Arg Gly Ala Cys Lys Gly Glu Pro Gln Ile Leu His
115 120 125Glu Ser Thr Glu Val Ser Asp Gln Asn Phe Ala Asp Asp Glu Ala Glu
130 135 140Ala Glu Thr Glu Ser Met Lys Ala Cys Lys Lys Arg Arg Leu Ser Arg
145 150 155 160Ala Leu His Ser Gly Ala Glu
165

<210> 13

<211> 471

<212> DNA

<213> Zea mays subsp. mays

<400> 13

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catccgcacg acgcaaatgg cgctggcttc aagggttctcc gcaggggggt gtgggagtac 120

atcgagtatg agaagaccag tgcccctgtg cgaagtgggg cttaatgctg cgtccctgca 180

aatccttggga tccggcattt caggccacgt gactgcggta gtaacgcaca gagtgacgcg 240

gtcgaaggcct cagtgggcga ccatgagtcg ggtactcagg caagccgcaa gagcccttca 300
9

2003-08-18 2750-1573P.ST25.txt

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gtgtctcatg gaaggggaacg gggagcttgt aagggagaac cccagattct acatgaaagt 360
acagagggtct ctgatcaaaa ttttgctgac gatgaggctg aagctgaaac agaataaatg 420
aaagcatgca agaaaaggag actaagcagg gctttgcact ccggtgctga a 471

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<210> 14
<211> 157
<212> PRt
<213> Zea mays subsp. mays

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<220>
<221> peptide
<222> (1)..(157)
<223> ceres Seq. ID no. 12410519

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<220>
<221> misc_feature
<222> ()..()
<223> xaa is any aa, unknown or other

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<400> 14
Met Leu Tyr Ile Ser Ser Met Glu Ala Ser Phe Val Asp Gln Leu Tyr
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Asn His Gly Asn His Pro His Asp Ala Asn Gly Ala Gly Phe Lys Val
20         25         30
Leu Arg Arg Gly Val Trp Glu Tyr Ile Glu Tyr Glu Lys Thr Ser Ala
35         40         45
Pro Val Arg Ser Gly Ala Lys Cys Cys Val Pro Ala Asn Pro Trp Ile
50         55         60
Arg His Phe Arg Pro Arg Asp Cys Gly Ser Asn Ala Gln Ser Asp Ala
65         70         75         80
Val Glu Ala Ser Val Gly Asp His Glu Ser Gly Thr Gln Ala Ser Arg
85         90         95
Lys Ser Pro Ser Val Ser His Gly Arg Glu Arg Gly Ala Cys Lys Gly
100        105        110
Glu Pro Gln Ile Leu His Glu Ser Thr Glu Val Ser Asp Gln Asn Phe
115        120        125
Ala Asp Asp Glu Ala Glu Ala Glu Thr Glu Ser Met Lys Ala Cys Lys
130        135        140
Lys Arg Arg Leu Ser Arg Ala Leu His Ser Gly Ala Glu
145        150        155

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<210> 15
<211> 409
<212> DNA
<213> Brassica napus

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<220>
<221> misc_feature
<222> (1)..(409)

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2003-08-18 2750-1573P.ST25.txt
<223> ceres Seq. ID no. 4788142

<220>

<221> misc_feature

<222> ()..()

<223> n is a, c, t, g, unknown, or other

<400> 15

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aagctccgac gattcttctt ctgtagggga agagacgact tcttcaatgt attctgcgag 180
gaatgaagat acgcctacag aatggaccga tgagaagcat agtttgatc ttaaataaat 240
ggaagcttcc ttcgttgatc agctgtacaa ctccctcggg gcgctcggct ccaaaaacaa 300
caaggatact gtcggaccat cgagaagggt cggtgatggt ggaaaacctt ctgaagaaca 360
ggatatgaata ggacactttc ccctgtcttt ttccatgtgc gatgttgtg 409

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<210> 16

<211> 276

<212> DNA

<213> Brassica napus

<400> 16

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atggttggtg actacagaga gaactatagc ccaagctccg acgattcttc ttctgtaggg 60
gaagagacga cttcttcaat gtattctgag aggaatgaag atacgcctac agaattgacc 120
gatgagaagc atagtttgta tcttaaatca atggaagctt ccttcgttga tcagctgtac 180
aactccctcg gtgcgctcgg ctccaaaaac aacaaggata ctgtcggacc atcgagaagg 240
ttcggtgatg gtggaaaacc ttctgaagaa caggta 276

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<210> 17

<211> 92

<212> PRt

<213> Brassica napus

<220>

<221> peptide

<222> (1)..(92)

<223> ceres Seq. ID no. 4788143

<220>

<221> misc_feature

<222> ()..()

<223> xaa is any aa, unknown or other

<400> 17

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Met Val Gly Asp Tyr Arg Glu Asn Tyr Ser Pro Ser Ser Asp Asp Ser
1           5           10           15
Ser Ser Val Gly Glu Glu Thr Thr Ser Ser Met Tyr Ser Ala Arg Asn
20           25           30

```

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Glu Asp Thr Pro Thr Glu Trp Thr Asp Glu Lys His Ser Leu Tyr Leu
 35 40 45
 Lys Ser Met Glu Ala Ser Phe Val Asp Gln Leu Tyr Asn Ser Leu Gly
 50 55 60
 Ala Leu Gly Ser Lys Asn Asn Lys Asp Thr Val Gly Pro Ser Arg Arg
 65 70 75 80
 Phe Gly Asp Gly Gly Lys Pro Ser Glu Glu Gln Val
 85 90

<210> 18
 <211> 198
 <212> DNA
 <213> Brassica napus

<400> 18
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 tatcttaaat caatggaagc ttccttcgtt gatcagctgt acaactccct cggtgcgctc 120
 ggctccaaaa acaacaagga tactgtcggg ccatcgagaa gggtcgggtga tgggtggaaaa 180
 ctttctgaag aacaggta 198

<210> 19
 <211> 66
 <212> PRt
 <213> Brassica napus

<220>
 <221> peptide
 <222> (1)..(66)
 <223> ceres Seq. ID no. 4788144

<220>
 <221> misc_feature
 <222> ()..()
 <223> xaa is any aa, unknown or other

<400> 19
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 1 5 10 15
 Lys His Ser Leu Tyr Leu Lys Ser Met Glu Ala Ser Phe Val Asp Gln
 20 25 30
 Leu Tyr Asn Ser Leu Gly Ala Leu Gly Ser Lys Asn Asn Lys Asp Thr
 35 40 45
 Val Gly Pro Ser Arg Arg Phe Gly Asp Gly Gly Lys Pro Ser Glu Glu
 50 55 60
 Gln Val
 65

<210> 20

2003-08-18 2750-1573P.ST25.txt

<211> 186
 <212> DNA
 <213> Brassica napus

<400> 20
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 aagcttcctt cgttgatcag ctgtacaact ccctcgggtgc gctcggctcc aaaaacaaca 120
 aggatactgt cggaccatcg agaaggttcg gtgatgggtgg aaaaccttct gaagaacagg 180
 tatgaa 186

<210> 21
 <211> 62
 <212> PRt
 <213> Brassica napus

<220>
 <221> peptide
 <222> (1)..(62)
 <223> ceres Seq. ID no. 4788145

<220>
 <221> misc_feature
 <222> ()..()
 <223> xaa is any aa, unknown or other

<400> 21
 Met Lys Ile Arg Leu Gln Asn Gly Pro Met Arg Ser Ile Val Cys Ile
 1 5 10 15
 Leu Asn Gln Trp Lys Leu Pro Ser Leu Ile Ser Cys Thr Thr Pro Ser
 20 25 30
 Val Arg Ser Ala Pro Lys Thr Thr Arg Ile Leu Ser Asp His Arg Glu
 35 40 45
 Gly Ser Val Met Val Glu Asn Leu Leu Lys Asn Arg Tyr Glu
 50 55 60

<210> 22
 <211> 486
 <212> DNA
 <213> Brassica napus

<220>
 <221> misc_feature
 <222> (1)..(486)
 <223> ceres Seq. ID no. 4796909

<220>
 <221> misc_feature
 <222> ()..()
 <223> n is a, c, t, g, unknown, or other

<400> 22
 tttccgtctt tctttttcac cttctcctcc tccttctctc ctttcttctg atattttcct 60
 ctctctagtc ttaacaagat agataggtag caaatgggtg gtgactacag agagaactat 120
 13

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agcccaagct cgcacgattc ttcttctgta ggggaagaga cgacttcttc aatgtattct 180
gcgaggaatg aagatacgcc tacagaatgg accgatgaga agcatagttt gtatcttaaa 240
tcaatggaag ctctcttcgt tgatcagctg tacaactccc tcggtgctgc cggtccaaa 300
aacaacaagg atactgtcgg accatcgaga aggttcggtg atggtggaaa accttctgaa 360
gaacagaaga tgaatgtgag gcagcctgag tatcgtctca atggaagaca cggtcgtcgc 420
tctcacgagt ttcttaggag tccatggatc aagcactata agccttcacc aaagtccta 480
acagat 486

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<210> 23
 <211> 393
 <212> DNA
 <213> Brassica napus

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<400> 23
atggttggtg actacagaga gaactatagc ccaagctccg acgattcttc ttctgtaggg 60
gaagagacga ctcttcaat gtattctgct aggaatgaag atacgcctac agaatggacc 120
gatgagaagc atagtttgta tcttaaatca atggaagctt ccttcgttga tcagctgtac 180
aactccctcg gtgcgtcgg ctcaaaaac aacaaggata ctgtcggacc atcgagaagg 240
ttcggtgatg gtggaaaacc ttctgaagaa cagaagatga atgtgaggca gcctgagtat 300
cgtctcaatg gaagacacgg tcgtcgtctt cacgagtttc ttaggagtcc atggatcaag 360
cactataagc cttcaccaa gtcctaaca gat 393

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<210> 24
 <211> 131
 <212> PRT
 <213> Brassica napus

<220>
 <221> peptide
 <222> (1)..(131)
 <223> ceres Seq. ID no. 4796910

<220>
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 <222> ()..()
 <223> xaa is any aa, unknown or other

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Met Val Gly Asp Tyr Arg Glu Asn Tyr Ser Pro Ser Ser Asp Asp Ser
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Ser Ser Val Gly Glu Glu Thr Thr Ser Ser Met Tyr Ser Ala Arg Asn
20          25          30
Glu Asp Thr Pro Thr Glu Trp Thr Asp Glu Lys His Ser Leu Tyr Leu
35          40          45

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Lys Ser Met Glu Ala Ser Phe Val Asp Gln Leu Tyr Asn Ser Leu Gly
 50 55 60
 Ala Leu Gly Ser Lys Asn Asn Lys Asp Thr Val Gly Pro Ser Arg Arg
 65 70 75 80
 Phe Gly Asp Gly Gly Lys Pro Ser Glu Glu Gln Lys Met Asn Val Arg
 85 90 95
 Gln Pro Glu Tyr Arg Leu Asn Gly Arg His Gly Arg Arg Ser His Glu
 100 105 110
 Phe Leu Arg Ser Pro Trp Ile Lys His Tyr Lys Pro Ser Pro Lys Ser
 115 120 125
 Leu Thr Asp
 130

<210> 25
 <211> 315
 <212> DNA
 <213> Brassica napus

<400> 25
 atgtattctg cgaggaatga agatacgctt acagaatgga ccgatgagaa gcatagtttg 60
 tatcttaaatt caatggaagc ttccttcgtt gatcagctgt acaactccct cggtgcgctc 120
 ggctccaaaa acaacaagga tactgtcgga ccatcgagaa gggtcggtga tgggtgaaaa 180
 ctttctgaag aacagaagat gaatgtgagg cagcctgagt atcgtctcaa tggaagacac 240
 ggtcgtcgct ctcacgagtt tcttaggagt ccatggatca agcactataa gccttcacca 300
 aagtccttaa cagat 315

<210> 26
 <211> 105
 <212> PRT
 <213> Brassica napus

<220>
 <221> peptide
 <222> (1)..(105)
 <223> ceres Seq. ID no. 4796911

<220>
 <221> misc_feature
 <222> ()..()
 <223> xaa is any aa, unknown or other

<400> 26
 Met Tyr Ser Ala Arg Asn Glu Asp Thr Pro Thr Glu Trp Thr Asp Glu
 1 5 10 15
 Lys His Ser Leu Tyr Leu Lys Ser Met Glu Ala Ser Phe Val Asp Gln
 20 25 30
 Leu Tyr Asn Ser Leu Gly Ala Leu Gly Ser Lys Asn Asn Lys Asp Thr
 35 40 45

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Val Gly Pro Ser Arg Arg Phe Gly Asp Gly Gly Lys Pro Ser Glu Glu
 50 55 60

Gln Lys Met Asn Val Arg Gln Pro Glu Tyr Arg Leu Asn Gly Arg His
 65 70 75 80

Gly Arg Arg Ser His Glu Phe Leu Arg Ser Pro Trp Ile Lys His Tyr
 85 90 95

Lys Pro Ser Pro Lys Ser Leu Thr Asp
 100 105

<210> 27
 <211> 243
 <212> DNA
 <213> Brassica napus

<400> 27
 atggaagctt ccttcgttga tcagctgtac aactccctcg gtgcgctcgg ctccaaaaac 60
 aacaaggata ctgtcggacc atcgagaagg ttcggtgatg gtggaaaacc ttctgaagaa 120
 cagaagatga atgtgaggca gcctgagtat cgtctcaatg gaagacacgg tcgtcgtctt 180
 cacgagtttc ttaggagtcc atggatcaag cactataagc cttcaccaaa gtcctaaca 240
 gat 243

<210> 28
 <211> 81
 <212> PRT
 <213> Brassica napus

<220>
 <221> peptide
 <222> (1)..(81)
 <223> ceres Seq. ID no. 4796912

<220>
 <221> misc_feature
 <222> ()..()
 <223> xaa is any aa, unknown or other

<400> 28
 Met Glu Ala Ser Phe Val Asp Gln Leu Tyr Asn Ser Leu Gly Ala Leu
 1 5 10 15
 Gly Ser Lys Asn Asn Lys Asp Thr Val Gly Pro Ser Arg Arg Phe Gly
 20 25 30
 Asp Gly Gly Lys Pro Ser Glu Glu Gln Lys Met Asn Val Arg Gln Pro
 35 40 45
 Glu Tyr Arg Leu Asn Gly Arg His Gly Arg Arg Ser His Glu Phe Leu
 50 55 60
 Arg Ser Pro Trp Ile Lys His Tyr Lys Pro Ser Pro Lys Ser Leu Thr
 65 70 75 80

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Asp

<210> 29
 <211> 1014
 <212> DNA
 <213> Arabidopsis thaliana,
 <220>
 <221> misc_feature
 <222> (1)..(1014)
 <223> ceres Seq. ID no. 12321174

<220>
 <221> misc_feature
 <222> ()..()
 <223> n is a, c, t, g, unknown, or other

<400> 29
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 tgattgcacg gtgaatattg tctctctgga gaaggatcgc gatgtttcgg aggcgtcggc 180
 tgaatctcag agcagagtcga ctctttcgaa ctcgctcgat tccggtgtta cggctgagac 240
 ctctcgttct gatgctgatt ccaaactgga tgaatgtact gcttggacga atgagaaaca 300
 caactcatat cttgattatt tagagagctc gtttgttagg caattatact ctttgcttgg 360
 aggtgggact cagagacttt ctagaactcg tgatgtgcag tctaactctc ataaatcagc 420
 tgatcagttt accgtcctac aaaatggttg ctggcagaag gttaactttg gaaagaaaca 480
 atcttgtttg gagacttcat ctgagtttcg ttttcacaga aattcattga gaaataagcc 540
 tgaaaattcc aacggaaatt acaccatggg aactactgtc caaggagatg tgttatgtca 600
 tgacgaaacc aaacactcag aggcgtcagg gcagaatttc agagaagaag aagaagaaga 660
 agagaagggg gaggtgagca aaaaacgaga aagagaagca aataacgatg atagttcatt 720
 gaaggaggat caggttgtgc cggtaaggat ggtgaagccc agaacgtgaa agcattagga 780
 agtgtagatg aaatactatg aatagagata aagaaataga agaaggtgtg gttacgaatg 840
 tggagagggg tttgtttgtt gtatagcgtg aggctaaaga gagccttcct tataaaggga 900
 tccaatggga tatggaaata ggattggtgt ttgttttcgt taaattttgt ctaatgttaa 960
 ctaggggaaa agttatctga tagtattagc atcttatggc aattttattc tttt 1014

<210> 30
 <211> 654
 <212> DNA
 <213> Arabidopsis thaliana

<400> 30
 atggagaatg attgcacggt gaatattgtc tctctggaga aggatcgcga tgtttcggag 60

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gcgtcggctg aatctcagag cgagtcgact ctttcgaact cgctcgattc cggtgttacg      120
gctgagacct ctcgttctga tgctgattcc aaactggatg aatgtactgc ttggacgaat      180
gagaaacaca actcatatct tgattattta gagagctcgt ttgttaggca attatactcc      240
ttgcttggag gtgggactca gagactttct agaactcgtg atgtgcagtc taactctcat      300
aaatcagctg atcagttttac cgtcctacaa aatggttgct ggcagaaggt taactttgga      360
aagaaacaat cttgtttgga gacttcatct gagtttcggt ttcacagaaa ttcattgaga      420
aataagcctg aaaattccaa cggaaattac accatgggaa ctactgtcca aggagatgtg      480
ttatgtcatg acgaaaccaa acactcagag gcgtcagggc agaatttcag agaagaagaa      540
gaagaagaag agaagggaga ggtgagcaaa aaacgagaaa gagaagcaaa taacgatgat      600
agttcattga aggaggatca ggttggtgccg gtaaggatgg tgaagcccag aacg          654

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<210> 31

<211> 218

<212> PRt

<213> Arabidopsis thaliana

<220>

<221> peptide

<222> (1)..(218)

<223> ceres Seq. ID no. 12321175

<220>

<221> misc_feature

<222> ()..()

<223> xaa is any aa, unknown or other

<400> 31

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Met Glu Asn Asp Cys Thr Val Asn Ile Val Ser Leu Glu Lys Asp Arg
1      5      10
Asp Val Ser Glu Ala Ser Ala Glu Ser Gln Ser Glu Ser Thr Leu Ser
20     25     30
Asn Ser Leu Asp Ser Gly Val Thr Ala Glu Thr Ser Arg Ser Asp Ala
35     40     45
Asp Ser Lys Leu Asp Glu Cys Thr Ala Trp Thr Asn Glu Lys His Asn
50     55     60
Ser Tyr Leu Asp Tyr Leu Glu Ser Ser Phe Val Arg Gln Leu Tyr Ser
65     70     75     80
Leu Leu Gly Gly Gly Thr Gln Arg Leu Ser Arg Thr Arg Asp Val Gln
85     90     95
Ser Asn Ser His Lys Ser Ala Asp Gln Phe Thr Val Leu Gln Asn Gly
100    105    110
Cys Trp Gln Lys Val Asn Phe Gly Lys Lys Gln Ser Cys Leu Glu Thr
115    120    125

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Ser Ser Glu Phe Arg Phe His Arg Asn Ser Leu Arg Asn Lys Pro Glu
 130 135 140
 Asn Ser Asn Gly Asn Tyr Thr Met Gly Thr Thr Val Gln Gly Asp Val
 145 150 155 160
 Leu Cys His Asp Glu Thr Lys His Ser Glu Ala Ser Gly Gln Asn Phe
 165 170 175
 Arg Glu Glu Glu Glu Glu Glu Lys Gly Glu Val Ser Lys Lys Arg
 180 185 190
 Glu Arg Glu Ala Asn Asn Asp Asp Ser Ser Leu Lys Glu Asp Gln Val
 195 200 205
 Val Pro Val Arg Met Val Lys Pro Arg Thr
 210 215

<210> 32
 <211> 1027
 <212> DNA
 <213> Arabidopsis thaliana

<220>
 <221> misc_feature
 <222> (1)..(1027)
 <223> ceres Seq. ID no. 12323601

<220>
 <221> misc_feature
 <222> ()..()
 <223> n is a, c, t, g, unknown, or other

<400> 32
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 tctccacaaa gataagccaa caatgggttg tgattacaga ggacgcttta gtagccgtcg 120
 tttctccgac gactctgacg attcttccga cgatgcttct tccgtggagg gagagaccac 180
 ttcttccatg tactctgcgg ggaaagagta tatggaaaca gaatggacta atgagaagca 240
 tagtttatat cttaaactta tggaagcttc attcgtagat cagttatata actcgctcgg 300
 agctctcggg aagaacgaga atgtatccga atcaacgagg ttcggtagcg gtagaaaacc 360
 gtctcaagaa cagttcaagg ttcttcatga tggtttcttg cagaagatta atgtgaaaca 420
 acctgaacat cggattaacg gaaggcacgg tggttaattct catgagtttc ttaggagtcc 480
 atggattaag cattataaac ctttagtaaa gacacaaatc ccggtaacgg atgagcccga 540
 aaatcaagtt gtttagcagct ctaatgggaa gaagggaata tgcagctctg gctcagcctc 600
 tagtctcaag cagctaagct ctcatctcgg tgaccacgac caaatcagcg ttggagaagc 660
 agaggatatg gatcagaact ttgttaacga aggaataaaa ggcgaaaacg gaagctcgaa 720
 gaagatgaag acggtgatga tgagtgaatc gtcgagtacc gatcagggtg ttccactcaa 780
 taagctcttg caacatgacg taaatttgaa gtctgtttct tgagaggtca gatggtgaag 840

2003-08-18 2750-1573P.ST25.txt

ctttatatga ggagagaatt ttgtaatgta tatatatattg cataacttat aagtcaaatt 900
 tactatcctt agttacaagt ttcttcatca tatatcccta actataaata tatttatatg 960
 ctcatgtgag tggattcatt tgtactgtaa aacccttaga aagacgtcaa attagtattt 1020
 gatggtc 1027

<210> 33
 <211> 819
 <212> DNA
 <213> Arabidopsis thaliana

<400> 33
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 ttctccgacg actctgacga ttcttccgac gatgcttctt ccgtggaggg agagaccact 180
 tcttccatgt actctgcggg gaaagagtat atggaaacag aatggactaa tgagaagcat 240
 agtttatatc ttaaactctat ggaagcttca ttcgtagatc agttatataa ctcgctcgga 300
 gctctcggga agaacgagaa tgtatccgaa tcaacgaggt tcggtagcgg tagaaaaccg 360
 tctcaagaac agttcaaggt tcttcatgat ggtttctggc agaagattaa tgtgaaacaa 420
 cctgaacatc ggattaacgg aaggcacggg ggtaattctc atgagtttct taggagtcca 480
 tggattaagc attataaacc tttagtaaag acacaaatcc cggtaacgga tgagcccga 540
 aatcaagttg ttagcagctc taatgggaag aagggaatat gcagctctgg ctcagcctct 600
 agtctcaagc agctaagctc tcattcgcgt gaccacgacc aaatcagcgt tggagaagca 660
 gaggtatcgg atcagaactt tgtaacgaa ggaataaaaag gcgaaaacgg aagctcgaag 720
 aagatgaaga cggtgatgat gagtgaatcg tcgagtaccg atcaggttgt tccactcaat 780
 aagctcttgc aacatgacgt aaatttgaag tctgtttct 819

<210> 34
 <211> 273
 <212> PRT
 <213> Arabidopsis thaliana

<220>
 <221> peptide
 <222> (1)..(273)
 <223> ceres Seq. ID no. 12323602

<220>
 <221> misc_feature
 <222> ()..()
 <223> xaa is any aa, unknown or other

<400> 34
 Asp Ile Leu Phe Leu Ser Phe Ser Leu Ile Phe Phe Ile Phe Phe Phe
 1 5 10 15
 Phe Ser Leu Ser Leu His Lys Asp Lys Pro Thr Met Val Gly Asp Tyr
 20

2003-08-18 2750-1573P.ST25.txt

20 25 30
 Arg Gly Arg Phe Ser Ser Arg Arg Phe Ser Asp Asp Ser Asp Asp Ser
 35 40 45
 Ser Asp Asp Ala Ser Ser Val Glu Gly Glu Thr Thr Ser Ser Met Tyr
 50 55 60
 Ser Ala Gly Lys Glu Tyr Met Glu Thr Glu Trp Thr Asn Glu Lys His
 65 70 75 80
 Ser Leu Tyr Leu Lys Ser Met Glu Ala Ser Phe Val Asp Gln Leu Tyr
 85 90 95
 Asn Ser Leu Gly Ala Leu Gly Lys Asn Glu Asn Val Ser Glu Ser Thr
 100 105 110
 Arg Phe Gly Ser Gly Arg Lys Pro Ser Gln Glu Gln Phe Lys Val Leu
 115 120 125
 His Asp Gly Phe Trp Gln Lys Ile Asn Val Lys Gln Pro Glu His Arg
 130 135 140
 Ile Asn Gly Arg His Gly Gly Asn Ser His Glu Phe Leu Arg Ser Pro
 145 150 155 160
 Trp Ile Lys His Tyr Lys Pro Leu Val Lys Thr Gln Ile Pro Val Thr
 165 170 175
 Asp Glu Pro Glu Asn Gln Val Val Ser Ser Ser Asn Gly Lys Lys Gly
 180 185 190
 Ile Cys Ser Ser Gly Ser Ala Ser Ser Leu Lys Gln Leu Ser Ser His
 195 200 205
 Ser Arg Asp His Asp Gln Ile Ser Val Gly Glu Ala Glu Val Ser Asp
 210 215 220
 Gln Asn Phe Val Asn Glu Gly Ile Lys Gly Glu Asn Gly Ser Ser Lys
 225 230 235 240
 Lys Met Lys Thr Val Met Met Ser Glu Ser Ser Ser Thr Asp Gln Val
 245 250 255
 Val Pro Leu Asn Lys Leu Leu Gln His Asp Val Asn Leu Lys Ser Val
 260 265 270

Ser

<210> 35
 <211> 738
 <212> DNA
 <213> Arabidopsis thaliana

<400> 35
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 tcttccgacg atgcttcttc cgtggagggg gagaccactt cttccatgta ctctgcgggg 120
 aaagagtata tggaaacaga atggactaat gagaagcata gtttatatct taaatctatg 180
 gaagcttcat tcgtagatca gttatataac tcgctcggag ctctcgggaa gaacgagaat 240

2003-08-18 2750-1573P.ST25.txt

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gtatccgaat caacgagggt cggtagcggg agaaaaccgt ctcaagaaca gttcaagggt 300
cttcatgatg gtttctggca gaagattaat gtgaaacaac ctgaacatcg gattaacgga 360
aggcacgggtg gtaattctca tgagtttctt aggagtccat ggattaagca ttataaacct 420
ttagtaaaga cacaaatccc ggtaacggat gagcccgaaa atcaagttgt tagcagctct 480
aatgggaaga agggaatatg cagctctggc tcagcctcta gtctcaagca gctaagctct 540
cattcgcgtg accacgacca aatcagcgtt ggagaagcag aggtatcgga tcagaacttt 600
gttaacgaag gaataaaagg cgaaaacgga agctcgaaga agatgaagac ggtgatgatg 660
agtgaatcgt cgagtaccga tcaggttggt ccactcaata agctcttgca acatgacgta 720
aatttgaagt ctgtttct 738

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<210> 36

<211> 246

<212> PRT

<213> Arabidopsis thaliana

<220>

<221> peptide

<222> (1)..(246)

<223> ceres Seq. ID no. 12323603

<220>

<221> misc_feature

<222> ()..()

<223> xaa is any aa, unknown or other

<400> 36

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Met Val Gly Asp Tyr Arg Gly Arg Phe Ser Ser Arg Arg Phe Ser Asp
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Asp Ser Asp Asp Ser Ser Asp Asp Ala Ser Ser Val Glu Gly Glu Thr
20          25          30
Thr Ser Ser Met Tyr Ser Ala Gly Lys Glu Tyr Met Glu Thr Glu Trp
35          40          45
Thr Asn Glu Lys His Ser Leu Tyr Leu Lys Ser Met Glu Ala Ser Phe
50          55          60
Val Asp Gln Leu Tyr Asn Ser Leu Gly Ala Leu Gly Lys Asn Glu Asn
65          70          75          80
Val Ser Glu Ser Thr Arg Phe Gly Ser Gly Arg Lys Pro Ser Gln Glu
85          90          95
Gln Phe Lys Val Leu His Asp Gly Phe Trp Gln Lys Ile Asn Val Lys
100         105         110
Gln Pro Glu His Arg Ile Asn Gly Arg His Gly Gly Asn Ser His Glu
115         120         125
Phe Leu Arg Ser Pro Trp Ile Lys His Tyr Lys Pro Leu Val Lys Thr
130         135         140
Gln Ile Pro Val Thr Asp Glu Pro Glu Asn Gln Val Val Ser Ser Ser
145         150         155         160

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Asn Gly Lys Lys Gly Ile Cys Ser Ser Gly Ser Ala Ser Ser Leu Lys
 165 170 175
 Gln Leu Ser Ser His Ser Arg Asp His Asp Gln Ile Ser Val Gly Glu
 180 185 190
 Ala Glu Val Ser Asp Gln Asn Phe Val Asn Glu Gly Ile Lys Gly Glu
 195 200 205
 Asn Gly Ser Ser Lys Lys Met Lys Thr Val Met Met Ser Glu Ser Ser
 210 215 220
 Ser Thr Asp Gln Val Val Pro Leu Asn Lys Leu Leu Gln His Asp Val
 225 230 235 240
 Asn Leu Lys Ser Val Ser
 245

<210> 37
 <211> 633
 <212> DNA
 <213> Arabidopsis thaliana

<400> 37
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 gggaagaacg agaatgtatc cgaatcaacg aggttcggta gcggtagaaa accgtctcaa 180
 gaacagttca aggttcttca tgatggtttc tggcagaaga ttaatgtgaa acaacctgaa 240
 catcggatta acggaaggca cggtggtaat tctcatgagt ttcttaggag tccatggatt 300
 aagcattata aaccttttagt aaagacacaa atcccggtaa cggatgagcc cgaaaatcaa 360
 gttgttagca gctctaattg gaagaaggga atatgcagct ctggctcagc ctctagtctc 420
 aagcagctaa gctctcattc gcgtgaccac gaccaaata gcgttgagga agcagaggta 480
 tcggatcaga actttgttaa cgaaggaata aaaggcgaac acggaagctc gaagaagatg 540
 aagacggtga tgatgagtga atcgtcgagt accgatcagg ttgttccact caataagctc 600
 ttgcaacatg acgtaaattt gaagtctggt tct 633

<210> 38
 <211> 211
 <212> PRT
 <213> Arabidopsis thaliana

<220>
 <221> peptide
 <222> (1)..(211)
 <223> ceres Seq. ID no. 12323604

<220>
 <221> misc_feature
 <222> ()..()
 <223> xaa is any aa, unknown or other

2003-08-18 2750-1573P.ST25.txt

<400> 38

Met Tyr Ser Ala Gly Lys Glu Tyr Met Glu Thr Glu Trp Thr Asn Glu
 1 5 10 15
 Lys His Ser Leu Tyr Leu Lys Ser Met Glu Ala Ser Phe Val Asp Gln
 20 25 30
 Leu Tyr Asn Ser Leu Gly Ala Leu Gly Lys Asn Glu Asn Val Ser Glu
 35 40 45
 Ser Thr Arg Phe Gly Ser Gly Arg Lys Pro Ser Gln Glu Gln Phe Lys
 50 55 60
 Val Leu His Asp Gly Phe Trp Gln Lys Ile Asn Val Lys Gln Pro Glu
 65 70 75 80
 His Arg Ile Asn Gly Arg His Gly Gly Asn Ser His Glu Phe Leu Arg
 85 90 95
 Ser Pro Trp Ile Lys His Tyr Lys Pro Leu Val Lys Thr Gln Ile Pro
 100 105 110
 Val Thr Asp Glu Pro Glu Asn Gln Val Val Ser Ser Ser Asn Gly Lys
 115 120 125
 Lys Gly Ile Cys Ser Ser Gly Ser Ala Ser Ser Leu Lys Gln Leu Ser
 130 135 140
 Ser His Ser Arg Asp His Asp Gln Ile Ser Val Gly Glu Ala Glu Val
 145 150 155 160
 Ser Asp Gln Asn Phe Val Asn Glu Gly Ile Lys Gly Glu Asn Gly Ser
 165 170 175
 Ser Lys Lys Met Lys Thr Val Met Met Ser Glu Ser Ser Ser Thr Asp
 180 185 190
 Gln Val Val Pro Leu Asn Lys Leu Leu Gln His Asp Val Asn Leu Lys
 195 200 205
 Ser Val Ser
 210

<210> 39

<211> 960

<212> DNA

<213> Arabidopsis thaliana

<220>

<221> misc_feature

<222> (1)..(960)

<223> ceres Seq. ID no. 13491409

<220>

<221> misc_feature

<222> ()..()

<223> n is a, c, t, g, unknown, or other

<400> 39

atttttgttt ctctctttct ctctgatatt ttctattttc ttcttcttct ctctctctct 60

2003-08-18 2750-1573P.ST25.txt

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ctccgatgac tctgacgatt cttccgacga tgcttcttcc gtggagggag agaccacttc 180
ttccatgtac tctgcgggga aagagtatat ggaaacagaa tggactaatg agaagcatag 240
tttatatctt aaatctatgg aagcttcatt cgtagatcag ttatataact cgctcggagc 300
tctcgggaag aacgagaatg tatccgaatc aacgagggtc ggtagcggta gaaaaccgtc 360
tcaagaacag ttcaagggtc ttcatgatgg tttctggcag aagattaatg tgaaacaacc 420
tgaacatcgg attaacggaa ggcacggtgg taattctcat gagtttctta ggagtccatg 480
gattaagcat tataaacctt tagtaaagac acaaatcccg gtaacggatg agcccgaaaa 540
tcaagttggt agcagctcta atgggaagaa gggaatatgc agctctggct cagcctctag 600
tctcaagcag ctaagctctc attcgctga ccacgaccaa atcagcgttg gagaagcaga 660
ggatcggat cagaactttg ttaacgaagg aataaaaggc gaaaacggaa gctcgaaagaa 720
gatgaagacg gtgatgatga gtgaatcgct gagtaccgat caggttgttc cactcaataa 780
actcttgcaa catgacgtaa atttgaagtc tgtttcttga gaggtcagat ggtgaagctt 840
tatatgagga gagaattttg taatgtatat atatttgcag aacttataag tcaaatttac 900
tatccttagt tacaagtttc ttcatcatat atccctaact ataaatatat ttatatgccc 960

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<210> 40
<211> 816
<212> DNA
<213> Arabidopsis thaliana

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<400> 40
tttttgtttc tctctttctc tctgatattt ttcattttct tcttcttctc tctctctctc 60
caciaagata agccaacaat ggttggtgat tacagaggac gcttttagtag ccgtcgtttc 120
tccgatgact ctgacgattc ttccgacgat gcttcttccg tggagggaga gaccacttct 180
tccatgtact ctgcggggaa agagtatatg gaaacagaat ggactaatga gaagcatagt 240
ttatatctta aatctatgga agcttcattc gtagatcagt tatataactc gctcggagct 300
ctcgggaaga acgagaatgt atccgaatca acgagggtcg gtagcggtag aaaaccgtct 360
caagaacagt tcaaggttct tcatgatggt ttctggcaga agattaatgt gaaacaacct 420
gaacatcggg ttaacggaag gcacggtggt aattctcatg agtttcttag gagtccatgg 480
attaagcatt ataaaccttt agtaaagaca caaatcccg taacggatga gcccgaaaat 540
caagttgtta gcagctctaa tgggaagaag ggaatatgca gctctggctc agcctctagt 600
ctcaagcagc taagctctca ttcgctgac cacgaccaa tcagcgttg agaagcagag 660
gtatcggatc agaactttgt taacgaagga ataaaaggcg aaaacggaag ctcgaagaag 720
atgaagacgg tgatgatgag tgaatcgctg agtaccgatc aggttggtcc actcaataaa 780

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ctcttgcaac atgacgtaaa tttgaagtct gtttct

816

<210> 41
 <211> 272
 <212> PRt
 <213> Arabidopsis thaliana

<220>
 <221> peptide
 <222> (1)..(272)
 <223> ceres Seq. ID no. 13491410

<220>
 <221> misc_feature
 <222> ()..()
 <223> xaa is any aa, unknown or other

<400> 41
 Phe Leu Phe Leu Ser Phe Ser Leu Ile Phe Phe Ile Phe Phe Phe Phe
 1 5 10 15
 Ser Leu Ser Leu His Lys Asp Lys Pro Thr Met Val Gly Asp Tyr Arg
 20 25 30
 Gly Arg Phe Ser Ser Arg Arg Phe Ser Asp Asp Ser Asp Asp Ser Ser
 35 40 45
 Asp Asp Ala Ser Ser Val Glu Gly Glu Thr Thr Ser Ser Met Tyr Ser
 50 55 60
 Ala Gly Lys Glu Tyr Met Glu Thr Glu Trp Thr Asn Glu Lys His Ser
 65 70 75 80
 Leu Tyr Leu Lys Ser Met Glu Ala Ser Phe Val Asp Gln Leu Tyr Asn
 85 90 95
 Ser Leu Gly Ala Leu Gly Lys Asn Glu Asn Val Ser Glu Ser Thr Arg
 100 105 110
 Phe Gly Ser Gly Arg Lys Pro Ser Gln Glu Gln Phe Lys Val Leu His
 115 120 125
 Asp Gly Phe Trp Gln Lys Ile Asn Val Lys Gln Pro Glu His Arg Ile
 130 135 140
 Asn Gly Arg His Gly Gly Asn Ser His Glu Phe Leu Arg Ser Pro Trp
 145 150 155 160
 Ile Lys His Tyr Lys Pro Leu Val Lys Thr Gln Ile Pro Val Thr Asp
 165 170 175
 Glu Pro Glu Asn Gln Val Val Ser Ser Ser Asn Gly Lys Lys Gly Ile
 180 185 190
 Cys Ser Ser Gly Ser Ala Ser Ser Leu Lys Gln Leu Ser Ser His Ser
 195 200 205
 Arg Asp His Asp Gln Ile Ser Val Gly Glu Ala Glu Val Ser Asp Gln
 210 215 220

2003-08-18 2750-1573P.ST25.txt

Asn Phe Val Asn Glu Gly Ile Lys Gly Glu Asn Gly Ser Ser Lys Lys
 225 230 235 240
 Met Lys Thr Val Met Met Ser Glu Ser Ser Ser Thr Asp Gln Val Val
 245 250 255
 Pro Leu Asn Lys Leu Leu Gln His Asp Val Asn Leu Lys Ser Val Ser
 260 265 270

<210> 42
 <211> 738
 <212> DNA
 <213> Arabidopsis thaliana

<400> 42
 atggttggtg attacagagg acgcttttagt agccgtcgtt tctccgatga ctctgacgat 60
 tcttccgacg atgcttcttc cgtggaggga gagaccactt cttccatgta ctctgcgggg 120
 aaagagtata tggaaacaga atggactaat gagaagcata gtttatatct taaatctatg 180
 gaagcttcac tcgtagatca gttatataac tcgctcggag ctctcgggaa gaacgagaat 240
 gtatccgaat caacgagggt cggtagcggg agaaaaccgt ctcaagaaca gttcaagggt 300
 cttcatgatg gtttctggca gaagattaat gtgaaacaac ctgaacatcg gattaacgga 360
 aggcacgggt gtaattctca tgagtttctt aggagtccat ggattaagca ttataaacct 420
 ttagtaaaaga cacaaatccc ggtaacggat gagcccgaat atcaagttgt tagcagctct 480
 aatgggaaga agggaatatg cagctctggc tcagcctcta gtctcaagca gctaagctct 540
 cattcgcgtg accacgacca aatcagcgtt ggagaagcag aggtatcggg tcagaacttt 600
 gttaacgaag gaataaaagg cgaaaacgga agctcgaaga agatgaagac ggtgatgatg 660
 agtgaatcgt cgagtaccga tcagggttgtt ccaactcaata aactcttgca acatgacgta 720
 aatttgaagt ctgtttct 738

<210> 43
 <211> 246
 <212> PRT
 <213> Arabidopsis thaliana

<220>
 <221> peptide
 <222> (1)..(246)
 <223> ceres Seq. ID no. 13491411

<220>
 <221> misc_feature
 <222> ()..()
 <223> xaa is any aa, unknown or other

<400> 43
 Met Val Gly Asp Tyr Arg Gly Arg Phe Ser Ser Arg Arg Phe Ser Asp
 1 5 10 15
 Asp Ser Asp Asp Ser Ser Asp Asp Ala Ser Ser Val Glu Gly Glu Thr
 27

2003-08-18 2750-1573P.ST25.txt

20 25 30

Thr Ser Ser Met Tyr Ser Ala Gly Lys Glu Tyr Met Glu Thr Glu Trp
 35 40 45

Thr Asn Glu Lys His Ser Leu Tyr Leu Lys Ser Met Glu Ala Ser Phe
 50 55 60

Val Asp Gln Leu Tyr Asn Ser Leu Gly Ala Leu Gly Lys Asn Glu Asn
 65 70 75 80

Val Ser Glu Ser Thr Arg Phe Gly Ser Gly Arg Lys Pro Ser Gln Glu
 85 90 95

Gln Phe Lys Val Leu His Asp Gly Phe Trp Gln Lys Ile Asn Val Lys
 100 105 110

Gln Pro Glu His Arg Ile Asn Gly Arg His Gly Gly Asn Ser His Glu
 115 120 125

Phe Leu Arg Ser Pro Trp Ile Lys His Tyr Lys Pro Leu Val Lys Thr
 130 135 140

Gln Ile Pro Val Thr Asp Glu Pro Glu Asn Gln Val Val Ser Ser Ser
 145 150 155 160

Asn Gly Lys Lys Gly Ile Cys Ser Ser Gly Ser Ala Ser Ser Leu Lys
 165 170 175

Gln Leu Ser Ser His Ser Arg Asp His Asp Gln Ile Ser Val Gly Glu
 180 185 190

Ala Glu Val Ser Asp Gln Asn Phe Val Asn Glu Gly Ile Lys Gly Glu
 195 200 205

Asn Gly Ser Ser Lys Lys Met Lys Thr Val Met Met Ser Glu Ser Ser
 210 215 220

Ser Thr Asp Gln Val Val Pro Leu Asn Lys Leu Leu Gln His Asp Val
 225 230 235 240

Asn Leu Lys Ser Val Ser
 245

<210> 44
 <211> 633
 <212> DNA
 <213> Arabidopsis thaliana

<400> 44

atgtactctg cggggaaaga gtatatggaa acagaatgga ctaatgagaa gcatagttta	60
tatcttaaat ctatggaagc ttcattcgta gatcagttat ataactcgct cggagctctc	120
gggaagaacg agaatgtatc cgaatcaacg aggttcggta gcggtagaaa accgtctcaa	180
gaacagttca aggttcttca tgatggtttc tggcagaaga ttaatgtgaa acaacctgaa	240
catcggatta acggaaggca cggtggtaat tctcatgagt ttcttaggag tccatggatt	300
aagcattata aacctttagt aaagacacaa atcccggtaa cggatgagcc cgaaaatcaa	360
gttgtagca gctctaattg gaagaaggga atatgcagct ctggctcagc ctctagtctc	420

28

2003-08-18 2750-1573P.ST25.txt

aagcagctaa gctctcattc gcgtgaccac gaccaaata gcgttggaga agcagaggta 480
 tcggatcaga actttgttaa cgaaggaata aaaggcgaaa acggaagctc gaagaagatg 540
 aagacggtga tgatgagtga atcgctcgagt accgatcagg ttgttcact caataaactc 600
 ttgcaacatg acgtaaattt gaagtctgtt tct 633

<210> 45

<211> 211

<212> PRt

<213> Arabidopsis thaliana

<220>

<221> peptide

<222> (1)..(211)

<223> ceres Seq. ID no. 13491412

<220>

<221> misc_feature

<222> ()..()

<223> xaa is any aa, unknown or other

<400> 45

Met Tyr Ser Ala Gly Lys Glu Tyr Met Glu Thr Glu Trp Thr Asn Glu
 1 5 10 15
 Lys His Ser Leu Tyr Leu Lys Ser Met Glu Ala Ser Phe Val Asp Gln
 20 25 30
 Leu Tyr Asn Ser Leu Gly Ala Leu Gly Lys Asn Glu Asn Val Ser Glu
 35 40 45
 Ser Thr Arg Phe Gly Ser Gly Arg Lys Pro Ser Gln Glu Gln Phe Lys
 50 55 60
 Val Leu His Asp Gly Phe Trp Gln Lys Ile Asn Val Lys Gln Pro Glu
 65 70 75 80
 His Arg Ile Asn Gly Arg His Gly Gly Asn Ser His Glu Phe Leu Arg
 85 90 95
 Ser Pro Trp Ile Lys His Tyr Lys Pro Leu Val Lys Thr Gln Ile Pro
 100 105 110
 Val Thr Asp Glu Pro Glu Asn Gln Val Val Ser Ser Ser Asn Gly Lys
 115 120 125
 Lys Gly Ile Cys Ser Ser Gly Ser Ala Ser Ser Leu Lys Gln Leu Ser
 130 135 140
 Ser His Ser Arg Asp His Asp Gln Ile Ser Val Gly Glu Ala Glu Val
 145 150 155 160
 Ser Asp Gln Asn Phe Val Asn Glu Gly Ile Lys Gly Glu Asn Gly Ser
 165 170 175
 Ser Lys Lys Met Lys Thr Val Met Met Ser Glu Ser Ser Ser Thr Asp
 180 185 190
 Gln Val Val Pro Leu Asn Lys Leu Leu Gln His Asp Val Asn Leu Lys
 195 200 205

2003-08-18 2750-1573P.ST25.txt

Ser Val Ser
210

<210> 46
<211> 1031
<212> DNA
<213> Artificial Sequence

<220>
<223> clone nucleotide 486033

<220>
<221> misc_feature
<222> (609)..(609)
<223> n is a, c, g, or t

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<400> 46
agttcgcttt ggcctccgct tgccccctcc ctctcgcgtc tctatacatc gccgctgttg      60
tgttgcagtt cagtttgcac cctgagctct ctctggacc agccgagatt tctctctctg      120
cgcatctcta attcatcttc gtcgagagga gctgttcctc ttctttgccg cctcgaatct      180
gggactggtc ggttttctgg atccctgctg cctgtcgggt tctcgagagg tgtaaaatcc      240
aatggagggt gtgtcatcgt tgaaccagcc gttgatcaac gacgaccggc agcccgtgcc      300
cagcagtatc gccaagggtg atcaaatcca aggcctgttg tcgggtgaat ggacaaatga      360
gcggcacagc tcgtacataa gctccatgga ggcatctttc gtggagcaac tccgtagtgg      420
ttccaaggcc atccaggagg gcttgtgcca gagcatgagg attccgaggg atgatgctcg      480
cagccatgac gtccctgaga gtccgtgggt ggtggtgagg cgtttcaggc cacgcggtgt      540
ccaccatggc gatggaatgg aagtgaacc tttggtcgat gggttatggat caggtactga      600
cacggcccng agagaagggt cggacccacg caagatagcg aaggcttctg ctattattga      660
agtcacggac cagaattttc ctgaggaggg gattcaatcc agtaacggtg catgcaagag      720
acagaaatct actcctggca atgcatcaaa tggccagggt acttaacaag atagtggaag      780
ccaagccatg ccctctctga agccttcagg aggccatggg ggaaacgaga cttgtctgca      840
gtactacgtg atgacagggt gtgctgcagc tgcaagtagt ttggcttacc aaaatatgat      900
atcgctcgtc tttctgcggt gtggagagta gaatatgcat atccacatct gcagagagca      960
ccggttctct tttcttgggt gctgttacta ttttgtgcca tggagcaaatt ttatttggtg     1020
aatttgagct g                                     1031

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<210> 47
<211> 174
<212> PRT
<213> Artificial Sequence

2003-08-18 2750-1573P.ST25.txt

<220>

<223> clone peptide 486033

<220>

<221> misc_feature

<222> (123)..(123)

<223> Xaa can be any naturally occurring amino acid

<400> 47

Met Glu Gly Val Ser Ser Leu Asn Gln Pro Leu Ile Asn Asp Asp Arg
 1 5 10 15

Gln Pro Val Pro Ser Ser Ile Ala Lys Gly Asp Gln Ile Gln Gly Leu
 20 25 30

Leu Ser Gly Glu Trp Thr Asn Glu Arg His Ser Ser Tyr Ile Ser Ser
 35 40 45

Met Glu Ala Ser Phe Val Glu Gln Leu Arg Ser Gly Ser Lys Ala Ile
 50 55 60

Gln Glu Gly Leu Cys Gln Ser Met Arg Ile Pro Arg Asp Asp Ala Arg
 65 70 75 80

Ser His Asp Val Pro Glu Ser Pro Trp Val Val Arg Arg Phe Arg
 85 90 95

Pro Arg Gly Val His His Gly Asp Gly Met Glu Val Glu Pro Leu Val
 100 105 110

Asp Gly Tyr Gly Ser Gly Thr Asp Thr Ala Xaa Arg Glu Gly Pro Asp
 115 120 125

Pro Arg Lys Ile Ala Lys Ala Ser Ala Ile Ile Glu Val Thr Asp Gln
 130 135 140

Asn Phe Pro Glu Glu Gly Ile Gln Ser Ser Asn Gly Ala Cys Lys Arg
 145 150 155 160

Gln Lys Ser Thr Pro Gly Asn Ala Ser Asn Gly Gln Gly Thr
 165 170